DOCUMENT RESUME

ED 086 321 PS 006 930

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TITLE How Learning Conditions in Early Childhood - Including Mass Media - Relate to Aggression in Late Adolescence.
PUB DATE 30 May 73
NOTE 17p.; Paper presented at the Anniversary Meeting of the American Orthopsychiatry Association (50th, New York, N.Y., May 30, 1973)

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS *Adolescents; *Aggression; Anti Social Behavior; Behavior Development; *Elementary School Students; *Environmental Influences; *Longitudinal Studies; Peer Relationship; Sex Differences; Socialization; Socioeconomic Influences; Sociometric Techniques; Television
IDENTIFIERS Minnesota Multiphasic Personality Inventory; Modeling

ABSTRACT

This document, presented at a symposium on violence and aggression in America, reports a longitudinal study of environmental influences in the development of aggressive behavior. Subjects were 875 third graders when originally assessed with a peer nomination technique in 1960. High, moderate, and low degrees of aggression were identified in the population, and information was collected on the following kinds of variables: (1) instigators, (2) reinforcers, (3) identification, and (4) socio-cultural. Each of these factors was significantly related to aggression in the original data analysis. In 1970, 427 of the original subjects were located and reinterviewed. The sample was overloaded with low aggression youths, indicating a relationship between residential mobility and aggressive behavior. The second assessment included retesting with the peer rating, self-reports to determine extent of aggressive habits, and administration of the MMPI. Analysis of results indicates the stability of aggressive behavior. At age 19, subjects' aggression was predicted only by identification and socio-cultural variables. Significant sex differences were apparent. Discussion focuses on socialization factors in the development of aggression, particularly sex role development and the influence of modeling through television. (DP)

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# How Learning Conditions In Early Childhood - Including Mass Media - Relate To Aggression In Late Adolescence[1]

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[1]Presented at Symposium on "Violence and Aggression in America," 50th Anniversary Meeting of the American Orthopsychiatric Association, New York City, May 30, 1973.

[2]This research has been supported by Grants MH726 from the National Institute of Mental Health and CB364 from the Office of Child Development, also by Contract No HSM 42-70-60 from the Surgeon General's Scientific Advisory Committe on Television

My collaborators and I embarked on a longitudinal study of aggression some 18 years ago. At the time we were only vaguely aware of the pervasive extent of aggression, both calculated and impulsive, in our country. This was in those halcyon, grey flannel, Eisenhower years; after Korea and before Vietnam, before student protest, ghetto uprisings, assasinations, invasion of privacy and assorted skull duggery by political and government agents, and a general disrespect for the canons of law and order, in the best sense of that phrase, that seems to permeate all levels of our society. We were interested in studying the development of aggression over time because we felt aggression was a personality variable that was relatively easy to study--it was a behavior that could be defined, measured, and observed. Our assumption was that aggression is a learned behavior and we were interested in seeing if the general laws of learning, derived from the laboratory, largely in animal studies, applied to human behavior in the natural habitat. Further, we were interested in defining the learning conditions for the appearance of aggression in middle childhood and predicting from these conditions to current as well as later behavior. Thus our major interest was not "Violence and Aggression in America," the title of this morning's symposium. However, it is hoped that our findings will add to those of other research studies concerned with biological, ethological, and sociological, as well as learning antecedents of aggression so that we can begin to get a comprehensive view of the mainsprings of aggression and violence in our culture, documented by both experimental and naturalistic data. Only then will we be able to institute meaningful programs of prevention and control.

Aggression for us was defined as an "act which injures or irritates another person."[10] This signifies hostile, interpersonal aggression without any judgment of intent. It does not refer to the more positive connotations of the term aggression which imply striving and achievement, although, as we shall see, the two aspects are not unrelated.

Subjects and Procedure.

Our subjects were the entire population of third graders in a semi-rural county of the Hudson River Valley of New York in 1960--875 children and their mothers and fathers. A peer nomination measure consisting of 10 items of aggressive behavior constituted the measure of aggression in the third grade. Sample items are: "Who pushes or shoves children?" "Who says mean things?" "Who takes other children's things without asking?" The reliability and vali-

dity of this measure have been demonstrated in numerous studies.[4] Measures of the learning conditions were taken from parent interviews conducted individually in face to face situations. These interviews, completely objective and precoded, yielded measures on four general types of variables presumed to be antecedent to aggression in children--instigators, reinforcers, identification and social class. These were hypothesized to be the learning conditions of aggression. Instigation referred to conditions in the home which would likely be frustrating to the child and thus spark aggressive behavior. Reinforcement referred to contingent response by the parent to the child's aggression. Identification had two aspects--internalization of parental standards and modelling of behavior after significant adults. These could either inhibit or facilitate aggressive behavior. Social class variables were included since they are hypothesized to affect development of personality in a variety of ways ranging from genetic predisposition to nutrition to learning.

The data obtained from the 875 subjects when they were in the third grade and from their mothers and fathers have been analyzed and the results reported extensively elsewhere.[6] It is fair to say that all the major findings are consistent with the hypothesis that aggression may be learned by a child from his interaction with the environment. Each of the four classes of variables presumed to be the learning conditions of aggression related both independently and in interaction to aggression observed in school. Generally, the less nurturant and accepting the parents were toward the child at home, the more aggressive was he in school; the more the child was punished for aggression at home, the more aggressive was he in school; and the less identified the child was with either or both parents, the more aggressive was he in school. One of the major instigators to aggression in children seemed to be a general lack of favorable support from both parents which in turn tended to reduce the effectiveness of any punishment the parent administered as a deterrent to aggressive behavior. Furthermore, parental punitiveness, especially physical punishment, served to provide a model of aggressive behavior for the child to emulate. Other models of aggression were furnished on the children's favorite TV programs.

However, there were contrasting effects of punishment for two types of children--low aggressive children who had close identification with their parents and high aggressive children who identified only moderately or very little with their parents. Punishment seemed to inhibit aggression in the

former group and facilitate it in the latter group. We speculate that the closely identified children were being taught non-aggressive coping behavior which could replace the punished aggressive behavior.

The difficulty with such a one time field study is that causation cannot be teased apart from correlation. In the example above, was punishment correlated with aggression because an aggresive child is punished more, or because many children imitate the punishments they receive, or both? In order to separate causation and correlation, one needs to obtain repeated measurements on a child during his development. With such longitudinal data one can perhaps go beyond correlational theories and distinguish between the plausibility of rival causal theories.

Thus in 1970, ten years after the original data collection period, we attempted to reinterview our original third grade population, then about 19 years old, to see if the behaviors learned in the earlier period persisted into the later one and if the learning conditions that were delineated ten years earlier still demonstrated their effects.[8] We were successful in obtaining complete interviews from 427 subjects in the second time period, referred to hereafter as the thirteenth grade. These subjects included 211 boys and 216 girls. Modal age was 19 and on the average they had completed 12.6 years of schooling. As judged by father's occupation they were predominantly a middle class group, probably not too different from what you would find in similar localities across the country.

On the other hand, the 427 subjects who were reinterviewed were not a completely representative sample of the original 875 in the third grade. In particular, the 13th grade sample included more of the original low aggression subjects and less of the original high aggression subjects than one would have expected by chance. Of the boys in the lower quartile of aggression in the third grade, fifty-seven percent were reinterviewed. However, of the boys who had been in the upper quartile in the third grade, only twenty-seven percent were reinterviewed. The corresponding figures for girls were sixty-three percent and thirty-three percent. Why would almost double the number of low aggressive subjects as high aggressive subjects appear for the reinterview ten years later? The most compelling single explanation we can offer is based on a relationship we discovered between a family's residential mobility and its child's aggressiveness. We found these factors to be positively correlated within our reinterview

sample ($r = .17$, $p < .05$, for boys); thus it is likely that the families of high aggressive children were more likely to have moved between the times of the two interviews than the families of low aggressive subjects. One explanation might be that residential mobility serves as a frustration by providing the child new situations he must adjust to in the neighborhood and at school.

Results.

One of the most obvious findings in the longitudinal study was the stability of aggressive behavior over a 10-year period--there was a correlation of .38 between peer-rated aggression at age eight and peer-rated aggression 10 years later for boys, and .47 for girls. Two of the original 10 items in the peer rating procedure were changed because they were deemed inappropriate for 19 year old persons. The questions, "Who gives dirty looks and sticks out their tongue at other children?" was changed to "Who makes unfriendly gestures?" The item, "Who says:'Give me that!'" (spoken with emphasis) was eliminated from the 13th grade questionnaire. However, although all other items were the same, the high correlation between the two periods was due to something more than reliability. Aside from the fact that there was a 10-year lag, making it highly unlikely that memory of earlier ratings was an important factor, each subject was rated by a somewhat different set of raters in the later period than had rated him in the former period. Originally there had been 38 different third grade classes in which children were rated only by members of their third grade classroom. These 38 classes fed into five different high schools. In the follow-up interview each subject was presented with the third grade lists of all the feeder classes for the high school he attended, in addition to his own third grade class, and was asked to indicate all those students he knew and could rate. Thus there were two different groups of raters at the two points in time--they were overlapping to be sure, but different.

During his reinterview in the 13th grade each subject was also tested with the Minnesota Multiphasic Personality Inventory (MMPI). It has been reported that elevations on scales 4 and 9 of this test are indicative of potential delinquency.[7] Hence, we added together each subject's T-scores on scales 4 and 9 of the MMPI to get an aggression or "likelihood of acting out" score. This measure correlated positively with the 13th grade peer-rated aggression score ($r = .39$ for boys and .28 for girls).

In order to secure self-reports of aggression from our subjects in the

13th grade, we included two sets of questions in the interview. One set was designed to have face validity as a measure of a subject's propensity for antisocial behavior and the other set was designed to measure the intensity of a subject's aggressive habits. In the former set there were 26 questions such as-"In the last three years how many times have you taken something from a store without paying for it?""How many times in the last three years have you hit someone badly enough to need bandages or a doctor?"

In the latter set there were rating scales on which the subject checked one of the following: almost always true, often true, sometimes true, seldom true, never true, which best expressed his feelings on items like:"I feel like swearing!""I feel like being a little rude to people!""I feel like picking a fight or arguing with people." The questions in both these sets had been derived through extensive pretesting.[8] A Total Aggressive Habit score was derived by summing the scores on all the questions from both sets. For boys, that self rating score correlated highly with 13th grade peer-rated aggression ($r = .50$), but much lower with third grade peer-rated aggression (.16), further indication that the relation between third and thirteenth grade peer ratings is more than retest reliability or method variance. For girls, the corresponding 13th and 3rd grade correlations were .24 and .07 respectively.

Do these aggression variables measure the type of aggression in which we are interested: "an act which injures or irritates another person?" To try to answer this question, we asked New York State Division of Criminal Justice Services, which has a central data collection bureau, to determine the number of arrests of male subjects of our group who were in the low and high quartiles on 3rd grade aggression. The results indicated that three times as many in the low quartile as in the high quartile were mentioned as having been in trouble with the law. These data support the contention that our aggression measures are valid; and the consistency in peer ratings over 10 years indicates that aggressive behavior is stable over time and predictive from grade 3 to a year beyond high school.

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It is interesting that we were able to get such high correlations between self and peer ratings in the thirteenth grade although there had been no such correlation between peer and self ratings in the third grade. Perhaps at age 19 subjects can describe themselves better; or they feel it's less incriminating to admit these behaviors to a stranger whom they will never see again than when they were in a classroom in grade 3 and had no real assurance that the teacher wouldn't see their answers. Or perhaps it might even be

the difference in times--in 1960 it wasn't the "in" thing for young people to engage in or admit to certain antisocial behaviors which now are more acceptable at least to persons in this age group. "Ripping off" is the term used currently to legitimize stealing and make it socially acceptable. In 1960 there was no such term.

In analyzing the results it was necessary to treat males and females as separate populations because there were statistically significant differences between males' and females' mean scores on every measure of aggression that was used. The differences were even more pronounced in the thirteenth grade than they were in the third grade. In addition a principal component factor analysis of subject's sex and the variables that were used in the study yielded a first principal factor whose largest loading was for the subject's sex and whose next largest loadings were for the measures of aggression. Finally, a comparison of girls in the highest quartile of aggression with those in the lowest quartile revealed a difference in scores on the masculinity-femininity scale of the MMPI: the high-aggressive girls were significantly more masculine in their interests and attitudes. Because of these findings, the data for males and females were analyzed separately.

Of the four classes of antecedent variables which had been found to predict aggression in the third grade, instigation, contingent response to aggression, identification, and socio-cultural variables, only the latter two, identification and socio-cultural variables, predicted to aggression consistently in the thirteenth grade.

The correlations between antecedent measures derived from parent interviews when the subject was eight years old and their peer-rated aggression at age 19 are presented in Table 1. A multivariate analysis of the data including all the foregoing antecedent variables predicting to peer-rated aggression at age 19 is presented in Table 2. In a multiple regression analysis a coefficient is

Insert Tables 1 and 2 about here

computed for each independent (predictor) variable so that the weighted sum of the independent variables yields the best possible predictor of the value of the dependent variable. As Darlington has pointed out, one can treat the standardized coefficients in a multiple regression equation as measures of the relative contributions of the independent variables in determining the dependent variable.

While parental punishment for aggression at home when the child was eight years old related to aggression in school at that time, it was not a

predictor of how aggressive the child would be at age 19. Similarly while rejection by parents when the child was eight was the best predictor of concurrent peer-rated aggression, it was not a significant predictor of his or her aggression at age 19 as rated by peers. However, various measures of identification which related to aggression at age eight continued to maintain this relation to aggression at age 19. This included both measures of internalization, such as the extent to which the children manifested guilt and confessed when they committed transgressions, and measures of modelling, such as how much the youngsters' expressive behaviors resembled either or both of their parents' behaviors, and especially what models they were exposed to on television. Social class related variables continued to exhibit relationships over the years, such as father's occupational status, the higher the social class, the more aggressive female subjects,) and mobility orientation of the parents (the more ambitious the father, the more aggressive the male at age 19).

Let us examine the implications of these findings which have thus far been stated in a very general way. In the ensuing discussion we will become more specific. The effects of punishment and instigation are short lived. While instigators are perhaps necessary antecedents to aggression, their urgency is strong only at that very time and any specific instigation probably dissipates over an extended period. Thus after 10 years the circumstances in the home atmosphere which may have led to aggression in the third grade no longer have their effect and other variables are more important in predicting later aggression.

Why do the identification variables predict successfully aggressive behavior both at age eight and then again ten years later? Two of the identification measures, childrens' confessing and guilt as reported by parents, are often viewed as indications of the child's internalization of parental interdictions and, when viewed in a dynamic model of behavior, are indications of conscience which develops through identification with parents.

It is instructive to consider the child behaviors which are associated with high amounts of confessing and of guilt. These behaviors are a form of communication from the child--a self disclosure about some negative or undesirable action on his part. The fact that a child admits a transgression to a parent suggests that that parent has supported such communications

and is a probable reinforcing agent for the child. If so, a child with high scores on our measures of identification might well have a parent who uses a child management system which includes positive aspects. Such systems are much more effective in building behavior controls which are mediated by the child himself and not as situationally or time bound as predominantly negative control systmes. This would explain why identification variables are effective across time and why externally imposed conditions such as punishment are not. Further by the time a child is 19 physical punishment by parents is no longer a viable control.

Perhaps the most consistent relations between identification and aggression occurred as a function of a child's identification with his parents in expressive behavior. At age eight each child had rated himself on a series of 18 bipolar adjectives having to do with expressive motor behavior such as eating, walking, talking, etc. Each parent also rated himself or herself on the same adjectives. The measure of identification then was the similarity in ratings between parent and child. Examination of the aggression scores for high, medium, and low identification subjects revealed that low identification with both parents is the most potent predictor of aggression, irrespective of the subject's sex. Thus, the hypothesis that identification with parents in certain motor behavior such as walking, eating, and in perceptions of body image would be related to aggessive behavior was substantiated. These measures obtained from both parents independently and from children in the 3rd grade classroom were correlated significantly to aggression synchronously in the 3rd grade and longitudinally to aggression in the 13th grade. These findings lend support to the idea that what is termed conscience or internalization of parental proscriptions not only is copying of moral precepts and guilt for transgressions but also copying of manifest motor behavior of the socializing agents.

Identification in terms of sex role was investigated by examining specifically sex typed behaviors in which the children engaged. This was done by noting their preference for girls' games or boys' games, e.g.,"Would you rather go shooting or go bowling?""Play darts or play jacks,""learn boxing or learn dancing?" The valence of these activities for large normative samples of boys and girls had been previously determined. Indeed it was found that a boy's preference for girls' games and activities was a highly significant

indicator of lower aggression both synchronously and in later years. Boys' preference for girls' games and activities was inversely correlated with peer nominations of aggression both in the 3rd and 13th grades. Although not statistically significant, preference by boys for boys' games and activities was also in the hypothesized direction: the greater the preference, the more the aggression, both in the 3rd and 13th grades. For girls, no statistically significant relationships occurred but again the correlations were all in the hypothesized direction: girls' preference for boys' games and activities in the 3rd grade was positively related, and their preference for girls' games negatively related, to aggression in the 13th grade.

These data lend strong support to the notion that aggressive behavior is at least in part learned. Although for every measure of aggression on which we collected data boys consistently scored higher than girls, there were some boys who scored well within the range of girls' scores and some girls who scored like boys. These tended to be the subjects who preferred activities inappropriate to the stereotype of their own sex role. When boys opt for feminine games and activities the choice in itself seems to act as a suppressor of early and later aggression. Preference for feminine activities may simply be incompatible with aggressive responses. Further evidence bearing on these relationships will be presented below where it is shown that when adult females prefer stereotyped masculine activities such behavior is positively related to aggression.

The most dramatic of our findings relevant to identification (i.e., modelling of behavior) had to do with the television habits of the youngsters. As has been reported elsewhere,[4] one of the best predictors of how aggressive a boy will be at age 19 is the violence of television programs he prefers at age eight. This longitudinal relationship is even stronger than the synchronous one between television violence at age eight and aggression at age eight. By use of such statistical techniques as cross lagged correlations, path analysis multiple regression and partial correlation, it was demonstrated that the most plausible interpretation of these data was that early viewing of violent television caused later aggression. Thus it seems that the possibility of the child's imitating aggressive behavior is not limited exclusively to behavior exhibited by parents. As Bandura[1] points out, children will copy the behavior of any significant model, presumably including models they view on television.

It should be emphasized that this direct positive relation between violence of preferred programs and later aggression was true only for boys. For girls, while the suggestion is not as strong as for boys, there are indications that viewing television violence may lead to lessened aggression.

Why should there be this differential effect of television violence on boys and girls? First, boys are often encouraged and reinforced in the direct and overt expression of aggression. On the other hand, girls are trained not to behave aggressively in a direct manner and nonaggressive behaviors are reinforced. Thus, for girls television violence viewing may actually be a positively sanctioned social activity in which aggressive girls may express aggression vicariously since they cannot express aggression directly in social interactions. The direct avenues for expression of aggressive behavior such as fighting, wrestling, pummeling, war games, etc. are open to boys and discouraged for girls. Moreover, both peer and adult cultures encourage and reinforce direct rather than vicarious participation for boys in contact sports but make little provision for the participation of girls. Second, there are far fewer aggressive females on television for a girl to imitate than there are aggressive males for a boy to imitate. Further, when girls do appear in violent sequences on television, they are usually victims of aggression or at best passive observers. So the more violent the programs girls watch, the more they are exposed to female models as victims or passive observers and the more they feel vicariously the aversive consequences of aggression. Therefore, the less likely are they to be aggressive. However, children watching television are exposed both to aggressive and nonaggressive models and they learn both aggressive and nonaggressive behaviors. It is suggested that the more the television characters resemble the child viewers the more the children will model their behaviors after the actors. Thus they will model both aggressive and nonaggressive characters. Hypothetically, the overt behavior that the children ultimately display will be the resultant of all the models they have observed weighted by the salience of each model for the particular child. Generally female characters will be more salient for girls and male characters for boys and thus will have a larger modelling effect.

In this regard, it is interesting that recently in our research we have

been observing changes in the behavior of little girls that is perhaps related to the changing behavior of models they are exposed to as well, perhaps, as to direct tuition in aggression. Current research[2] with nine year old boys and girls indicates that girls are now for the first time in our studies over the last 15 years getting aggression scores just as high as boys in an experimental situation in which overt aggressive behavior is measured. Concurrently, we note that in the last five or six years, while these nine year old subjects have been increasingly exposed to television, there have been increasingly more aggressive female models whose behavior could be copied, e.g., "Mod Squad", "Ironsides", and "Girl from Uncle". This is not to say that one is causing the other. They both may be a function of the rapidly changing role of women in our society.[9]

Two related findings are ths significant positive relation for girls between aggression and masculine interest patterns as measured by the masculinity-femininity scale of the MMPI and the significant positive relation between aggression scores for girls and the extent to which they watch contact sports. Both of these scores that are related to aggression reflect attitudes and behaviors which are normative for boys. For boys, however, there was no relation between viewing contact sports and aggression nor was there a relation for boys between masculinity on the M-F scale and aggression. It is very probable that the reason for lack of relationships with aggression lies in the minimal variability on the other two variables. Most boys watch contact sports and also endorse the attitudes and interests comprising the Masculinity items on the M-F scale. Both peer and adult cultures encourage and reinforce direct rather than vicarious participation for boys in contact sports but make little provision for the participation of girls. For boys knowledge of these sports and activities is virtually peer mandated and required for peer acceptance and popularity. Low aggressive boys, medium aggressive boys and high aggressive boys all watch contact sports. However, these results indicate that when females are aggressive some of their interests and activities are deviant from their sex and similar to the behavior of the male sex group. As counterpoint, the inverse relationships found for boys between aggression and preference for girls' games and activities in the third grade deserve repeating. The data indicate that low aggressive males take on certain characteristics of females and high aggressive females take on certain characteristics of males.

Although the data of the present study cannot refute the possible contribution of biological and hormonal components in the causation of aggressive behavior they can and do support the theory that the different socialization practices used in rearing male and female children contribute to at least some of the differences in aggressive behavior attributable to gender.

Pertinent at this point is the discussion by Mulvihill and Tumin[9] concerning the differences in criminality between males and females. These authors cite certain cultural and socialization factors which affect the female and presumably contribute to these differences in criminal behavior. The female child is not permitted by her parents to roam the streets but is more closely supervised than males. Also girls are taught that softness and gentleness are virtues whereas males learn to eschew these characteristics and to value physical prowess and aggressiveness. Economically, women are not required to achieve success in the marketplace although emancipation of females will undoubtedly change this expectation. A woman's social status or rank in society is derived vicariously through association with males by marriage. Marriage and family rather than economic competition are set forth by child rearing agents as proper goals for women. Finally, women have fewer models for criminal acts than men and even when they commit such an act the courts treat them with greater leniency than men. For example, although one out of seven arrests for serious crimes is a woman, only 1 woman for every 22 men is confined in state and federal prisons.

These cultural factors, in large measure, serve to account for the differential rate of criminal behavior between males and females. The fact that aggressive behavior is shaped by learning through socialization practices and varies by sex within conspecifics detracts from the theories of the ethologists who argue that aggression in man is innately determined. If females of the human species are less aggressive than males, as they seem to be, then a theory to explain away the absence of female aggression, such as sublimation or other second order assumptions, are required. Scientifically cumbersome, however, this manner of explanation violates the principle of parsimony because the phenomenon of aggressive behavior could be explained on a simpler level not requiring an assumption involving sublimative behavior. Life styles which expose individuals differentially to deviant stimuli cul-

minating in aggressive behavior would be a more parsimonious explanation of sex differences in aggression. Differential socialization practices in child rearing upon which later life styles are contingent are part of this explanation. Where cultural roles of women and men become congruent, the criminal rate of these groups becomes comparable.[9] Similarly, data from our subjects show that as females' interests and attitudes become more masculine their behavior becomes more aggressive. In this context a prominent feminist, Susan Brownmiller on the Op Ed page of the New York Times, says that the time has come to reject the ideal of femininity in which non-aggression is apotheosized if for no other reason than self defense necessary for survival on urban streets. Consequently, she recommends training in physical aggression for women and she herself is being tutored in such aggression by a male Japanese instructor. She notes that the Japanese are well-suited to give such training because they have learned to compensate for their smaller stature as compared to western males. Smaller in stature and musculature, women in this sense, Ms. Brownmiller argues, are in the analogous position of Japanese males.

That cultural, i.e., learning, variables play a strong role in shaping aggressive behavior seems evident from the data I have reported. However, these data do not resolve the question of whether or not man potentially, in the genetic sense, is more or less aggressive. Regardless of the contribution of genetics, ethology, or biochemistry there can be no doubt that learning is a major influence on aggressive behavior. And learning is a process we can alter. It is much more difficult to go about changing genetic substrates than it is to change the learning conditions which lead to aggression.

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Table 1

Correlations Between Third Grade Predictor Variables And Aggression In The Third And Thirteenth Grades

| Third Grade Predictor Variables | Aggression | | | |
|---|---|---|---|---|
| | Third Grade | | Thirteenth Grade | |
| | Boys | Girls | Boys | Girls |
| Parental Rejection of Child | .28** | .35*** | .10 | .04 |
| Parental Disharmony | -.08 | .17* | .07 | .12 |
| Parental Nurturance of Child | -.16 | -.02 | -.15 | -.09 |
| Child's IQ | -.29** | -.28** | -.18** | -.19** |
| Parental Punishment of Child | .18* | .12 | .13 | .04 |
| Child's Identification with Father | -.25** | -.22* | -.16* | -.22* |
| Father's Aggressiveness | .01 | .02 | .11 | .06 |
| Child's Identification with Mother | -.23** | -.30** | -.17* | -.19* |
| Mother's Aggressiveness | .01 | .12 | .03 | .06 |
| Television Violence | .21** | -.02 | .31** | -.13 |
| Child's Guilt | -.14 | -.34*** | -.05 | -.20* |
| Child's Confessing to Parent | -.19** | -.31** | -.18** | -.14 |
| Child's Preference for Boys' Games | .11 | .04 | .11 | .02 |
| Child's Preference for Girls' Games | -.16* | -.04 | -.17* | -.01 |
| Father's Occupational Status | -.16* | -.16* | .03 | -.14 |
| Parents' Mobility Orientation | .15 | .02 | .25** | .06 |
| Parents' Frequency of Church Attendance | .04 | -.18* | .09 | -.20* |
| Parents' Educational Level | -.05 | .06 | .07 | .13 |
| Ethnicity of Family | -.13 | .07 | -.07 | .08 |

* $p < .05$

** $p < .01$

*** $p < .001$

Table 2

Multiple Regression Analyses Predicting 13th Grade Aggression from 3rd Grade Variables*

| Third Grade Predictor Variable | Type | BOYS Standardized Coefficient | BOYS Significance | GIRLS Standardized Coefficient | GIRLS Significance |
|---|---|---|---|---|---|
| Parental punishment of child | Contingent | | | | |
| Parental rejection of child | Instigator | | | | |
| Parental disharmony | Instigator | | | | |
| Child's IQ | Instigator | | | | |
| Parental nurturance of child | Instigator | -.166 | p<.041 | -.119 | p<.186 |
| Child's identification with father | Identification | | | | |
| Father's aggressiveness | Identification | | | -.175 | p<.05 |
| Child's identification with mother | Identification | -.191 | p<.020 | | |
| Mother's aggressiveness | Identification | | | | |
| Television violence | Identification | .251 | p<.003 | -.172 | p<.04 |
| Child's guilt | Identification | | | -.143 | p<.100 |
| Child's confessing to parents | Identification | | | | |
| Child's preference for boys' games | Identification | | | | |
| Child's preference for girls' games | Identification | -.189 | p<.023 | | |
| Father's occupational status | Socio-cultural | | | -.332 | p<.001 |
| Parents' mobility orientation | Socio-cultural | .271 | p<.002 | .172 | p<.044 |
| Parents' religiosity (frequency of church attendance) | Socio-cultural | | | -.192 | p<.025 |
| Parents' educational level | Socio-cultural | | | .261 | p<.015 |
| Ethnicity of family | Socio-cultural | -.137 | p<.095 | | |
| | | R = .499, p<.001 | | R = .534, p<.001 | |

*The regressions were computed in a stepwise manner. Stepping was stopped when no variable could be entered which would explain at least 2% of the variance in the criterion aggression variable.